

## **REMARKS**

### **Status of Claims**

Claims 1-24 are pending, of which claim 1 is independent.

Claims 1 and 13 have been amended to correct informalities in the claim language and to more clearly define the claimed subject matter. Claims 20-24 have been added. The amendments and the new claims are supported by, for example, FIG. 3 of the present disclosure. Care has been taken to avoid introducing new matter. For the reasons set forth below, Applicants respectfully submit that all pending claims as currently amended are patentable over the cited prior art.

### **Substance of Interview**

Applicants thank the Examiner for her time and courtesy during the interview with the Applicants' representatives on May 12, 2010.

During the interview, the Applicants' representatives explained the structural differences between claim 1 and Mitchell, together with proposed claim amendments. Specifically, the Applicants' representatives pointed out that, at a minimum, Mitchell does not disclose the claimed first insulating film formed on the lower surface of the alleged first electrode 22. The Examiner indicated that she understood the difference between the structure of claim 1 and FIG. 1 of Mitchell.

Further, Applicants' representatives argued with respect to claim 7 that FIGS. 2B-2D of Mitchell illustrate intermediate steps for fabricating the structure of FIG. 1, and lack air gap 30, which is only formed at the step as shown in FIG. 2E. The Examiner indicated that she understood that FIGS. 2B-2B do not disclose air gap 30.

Applicants' representatives also argued that Mitchell fails to disclose the structure of claim 13. The Examiner indicated that claim language should clearly define the intended structure.

**Rejection under 35 U.S.C. § 102**

Claims 1-4, 6-11, 13-17 and 19 were rejected under 35 U.S.C. § 102(b) as being anticipated by Mitchell et al. (USP 5,573,679). This rejection is traversed for at least the following reasons.

Applicants respectfully remind the Examiner that the factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure in a single reference of each element of a claimed invention, such that the identically claimed invention is placed into the possession of one having ordinary skill in the art. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994). Moreover, in imposing the rejection under 35 U.S.C. § 102, the Examiner is required to specifically identify wherein an applied reference is perceived to identically disclose each feature of a claimed invention. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984).

Applicants respectfully submit that, at a minimum, Mitchell fails to disclose “*a first film including a first electrode having a lower surface on which a first insulating film is formed, a second film including a second electrode having an upper surface on which a second insulating film is formed,*” as recited by amended claim 1. It should be noted that “*the lower surface of the first electrode faces the upper surface of the second electrode.*” With these features of claim 1,

the sticking between the first electrode and the second electrode during fabrication process can be prevented.

In contrast, in Mitchell, it is clear that, at a minimum, **the alleged first insulating film 28 is not formed on the lower surface of the alleged first electrode 22**. This is because that in Mitchell, the alleged insulating films 28 and 26 are removed together with the sacrificial layer 24 to form an air gap 30 (see, col. 5, lines 23-25 of Mitchell). Removing the insulating layers 26 and 28 is also necessary to allow electrical contact between the conductive layers 16 and 22 (see, col. 7, lines 7-9 of Mitchell). Accordingly, it is clear that the device disclosed by Mitchell is structurally different from the structure as recited by amended claim 1.

As such, since Mitchell fails to disclose the first insulating film formed on the lower surface of the first electrode, Mitchell does not anticipate claim 1 or any claim dependent thereon. Accordingly, claim 1 and all claims dependent thereon are patentable over the cited reference.

Regarding claims 3 and 4, Applicants respectfully submit that Mitchell fails to disclose that the first insulating film and the second insulating film, which are in contact with the top and bottom of the air gap, respectively, are insulating films having tensile stress or made of silicon nitride. The Examiner asserts that dielectric films 20 and 14 of Mitchell are made of silicon nitride having a tensile stress. **However, films 20 and 14 are not in contact with the air gap**. Accordingly, films 20 and 14 do not correspond to the claimed first and second insulating film, respectively. As such, it is clear that Mitchell fails to disclose the subject matter of claims 3 and 4 within the meaning of 35 U.S.C. § 102. Thus, claims 3 and 4 are patentable over Mitchell on their own merit in addition to the dependency upon claim 1.

Regarding claim 7, Applicants respectfully submit that the alleged FIGS. 2B-2D of

Mitchell do not disclose the subject matter of claim 7 within the meaning of 35 U.S.C. § 102. The Examiner, citing FIGS. 2B, 2C, and 2D of Mitchell, asserts that Mitchell discloses the subject matter of claim 7. However, FIGS. 2B, 2C, and 2D of Mitchell illustrate a part of the steps for fabricating the device, not an MEMS device in a complete state. Further, since claim 7 depends upon claim 1 which recites an air gap, it is clear that **FIGS. 2B, 2C, and 2D fail to disclose the claimed air gap as required by claim 7**. As such, it is clear that Mitchell fails to disclose or suggest the structure of claim 7. Thus, claim 7 is patentable over Mitchell on its own merit in addition to the dependency upon claim 1.

Further, regarding claim 13, it is clear that Mitchell fails to disclose the protrusion extending toward (i.e., inwardly into) the air gap in a direction perpendicular to the lower surface of the first electrode. In Mitchell, **there is no such protrusion extending toward the air gap 30**.

Based on the foregoing, Applicants respectfully request that the Examiner withdraw the rejection of claims 1-4, 6-11, 13-17 and 19 under 35 U.S.C. § 102(b).

**Rejection under 35 U.S.C. § 103**

Claims 5, 12 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mitchell. This rejection is respectfully traversed for at least the following reasons.

Applicants incorporate herein the arguments previously advanced in traversal of the rejection under 35 U.S.C. § 102(b) predicated upon Mitchell. Dependent claims 5, 12 and 18 are free from the applied art in view of their dependency from independent claim 1. Thus, Applicant respectfully requests that the Examiner withdraw the rejection of claims 5, 12 and 18 under 35 U.S.C. § 103(a).

**New Claims**

Since new claims 20-24 depend upon claim 1, this claim is also patentable over Mitchell for at least the same reasons as claim 1. Also, since Mitchell fails to disclose the features of claims 20-24, these claims are patentable for its own merit in addition to the dependency upon claim 1. For example, regarding claim 24, Mitchell clearly states a diaphragm 12 (i.e., a vibrating film) constituting layers 14 and 16 (see, FIG. 1 of Mitchell).

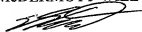
**Conclusion**

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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